

CLAIMS

1. A method for the determination of prosthetic infections in which at least one *Staphylococcus* strain is involved, which comprises detecting from blood samples or other biological fluid samples antibodies reacting with a polysaccharide produced by a virulent staphylococcal strain.
2. A method according to claim 1, in which the antibodies are IgG and IgM.
3. A method according to ^{claim 1} ~~claims 1-2~~, in which the virulent staphylococcal strain is a strain of coagulase negative or positive species.
4. A method according to claim 3, in which said species is *Staphylococcus epidermidis* or *Staphylococcus aureus*.
5. A method according to claim 3, in which the virulent staphylococcal strain is DSMZ No. 11942.
6. A method according to ^{claim 1} ~~claims 1-5~~, in which the polysaccharide is obtained by the following steps:
- a) culturing the staphylococcal strains in modified HHW medium for a period of 4-6 days;
 - b) homogenizing the bacterial cells in a physiological buffer;
 - c) centrifugating at 13,000 x g for 15 minutes and separating the surnatants;
 - d) desalting by dialysis the surnatant using membranes with a cut-off of 12 kDa;
 - e) freezing and lyophilizing the solution obtained in (d);
 - f) suspending the lyophilized material in a deproteinizing solution;
 - g) centrifugating at 30,000xg the solution obtained in (f) and separating the surnatant with addition of ethanol;
 - h) centrifugating the surnatant of step (g) at 20,000xg to obtain the

polysaccharide;

- i) washing the precipitated polysaccharide with absolute ethanol, dehydrating in vacuo and suspending it in sterile H₂O.

7. A method according to ~~claims 1-6~~ ^{Claim 1}, which is in form of ELISA, gel

immuno-precipitation, immuno-diffusion, contro-immunoelectrophoresis, radioimmunologic assay, complement fixation.

8. A process for preparing a polysaccharide from *Staphylococcus* cultures which comprises:

a) culturing the staphylococcal strains in modified HHW medium for a period of 4-6 days;

b) homogenizing the bacterial cells in a physiological buffer;

c) centrifugating at 13,000 x g for 15 minutes and separating the surnatants;

d) desalting by dialysis the surnatant using membranes with a cut-off of 12 kDa;

e) freezing and lyophilizing the solution obtained in (d);

f) suspending the lyophilized material in a deproteinizing solution;

g) centrifugating at 30,000xg the solution obtained in (f) and separating the surnatant with addition of ethanol;

h) centrifugating the surnatant of step (g) at 20,000xg to obtain the polysaccharide;

i) washing the precipitated polysaccharide with absolute ethanol, dehydrating in vacuo and suspending it in sterile H₂O.

9. A polysaccharide obtainable by the process of claim 6.

10. A kit for use in a method according to ~~claims 1-5~~ ^{Claim 1}, containing the

polysaccharide, the antibodies and the detection reagents in suitable

containers in combination with vehicles, excipients, additives, preservatives or stabilizers.

11. A kit according to claim 8, containing microtiter strips pre-sensitized with the antigen together with positive and negative control sera.
12. Use of a polysaccharide produced by virulent staphylococcal strains in an immunochemical assay for the determination of prosthetic infections.
- 5 13. Use according to claim 12, wherein the polysaccharide is that of claim 9.
14. Staphylococcal strain deposited at DSMZ under deposit No. 11942.

abd
B1

005260 "E" 43 09560